

DataTrak[®] Kits

313840P

EN

For providing pump diagnostics and material usage information for diaphragm pumps.

Conversion Kits - DataTrak with Pulse Count and Runaway Protection

Conversion Kits - DataTrak with Pulse Count

Replacement Parts Kits

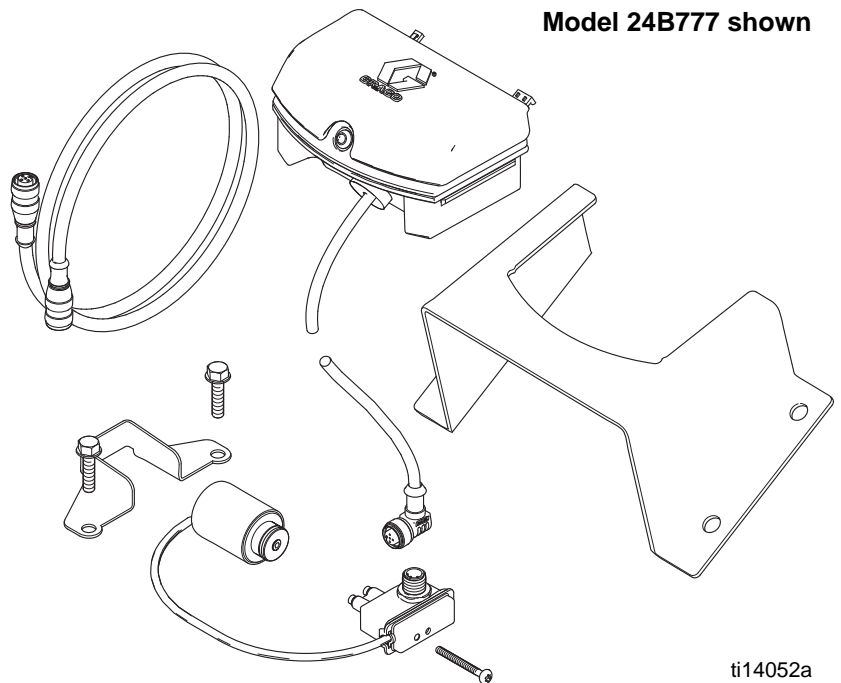
See pages 2 and 3 for model and agency approvals information.



Important Safety Instructions

Read all warnings and instructions in appropriate product manuals. Save all instructions.

Model 24B777 shown



ti14052a

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Related Manuals

Pump	Operation	Repair/Parts
Husky 1050	312877	313435
Husky 15120	3A2888	3A2889
Husky 2200	3A2578	3A2714
Husky 3300	3A0410	3A0411
Endura-Flo 4D150 and 4D350	333015	

DataTrak™ includes agency approvals listed below.



Intertek
9902471
Class I, Div. 1,
Group D T3A



Ex ia IIA T3 Ga
ITS13ATEX27862X

DataTrak Kits

Conversion Kits

Use to add data monitoring capabilities to an existing pump.

Endura-Flo 4D150	Endura-Flo 4D350	Husky 1050	Husky 15120	Husky 2200	Husky 3300	Diaphragm Pump Material	Data Monitoring	
							Pulse Count and Runaway Protection	Pulse Count
24Y304	24Y306	24B777			24K861	Aluminum	✓*	
		24B795			24B795			✓
		24B784	24B784	24V233	24K862	Polypropylene	✓*	
		24B794	24B794	24B794	24B794			✓
		24B793				Conductive Polypropylene	✓*	
		24B794						✓

* Kit includes replacement air valve compatible with solenoid.

Replacement Part Kits

Aluminum


Endura-Flo 4D150	Endura-Flo 4D350	Husky 1050A	Husky 3300A	Description
17H320	17H321	24B772	24K864	Solenoid/Reed Switch Assembly (pulse count and runaway protection)
		24B798	24B798	Reed Switch Assembly (pulse count only)

Polypropylene and Conductive Polypropylene

Husky 1050P or 1050C	Husky 15120P	Husky 2200P	Husky 3300P	Description
24B771	24B771	24K863	24K863	Solenoid/Reed Switch Assembly (pulse count and runaway protection)
24B796	24B796	24B796	24B796	Reed Switch Assembly (pulse count only)

Installation

! WARNING

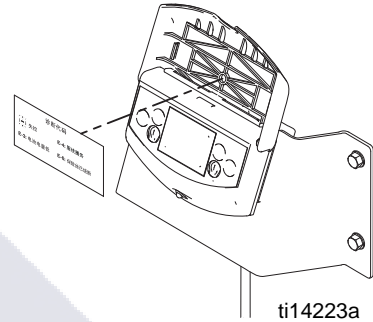


SPECIAL CONDITIONS FOR SAFE USE

Equipment must comply with the following conditions to avoid a hazardous condition which can cause fire or explosion.

- All label and marking material must be cleaned with a damp cloth (or equivalent).
- The electronic monitoring system is required to be grounded. See **Grounding** instructions in your pump operation manual.

4. Select the Diagnostic Codes card that matches the operator's preferred language. Insert it in the inside of the DataTrak cover for quick reference.

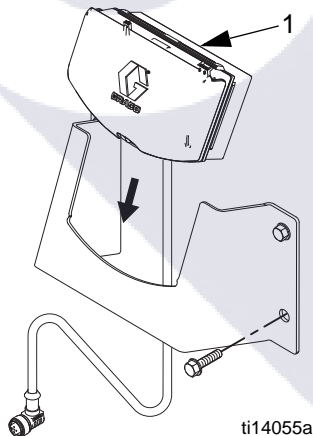


Prepare to Install

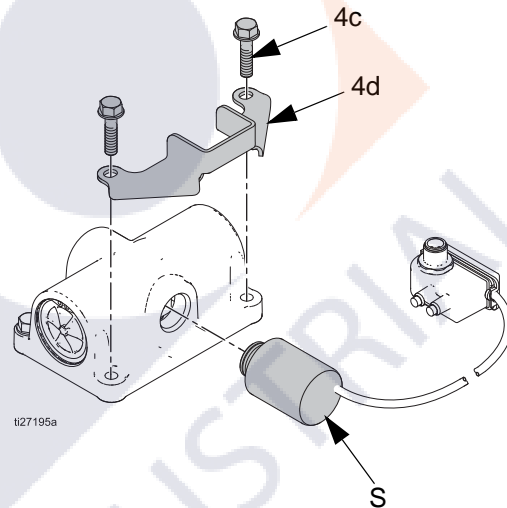
1. Relieve the pressure. Follow instructions in your Operation manual.
2. Disconnect the air line to the pump.

Install the Kit

1. Mount the bracket to the wall. Use approximately 3/8 in. bolts or screws.
2. Install the Data-Trak module (1) on the bracket.

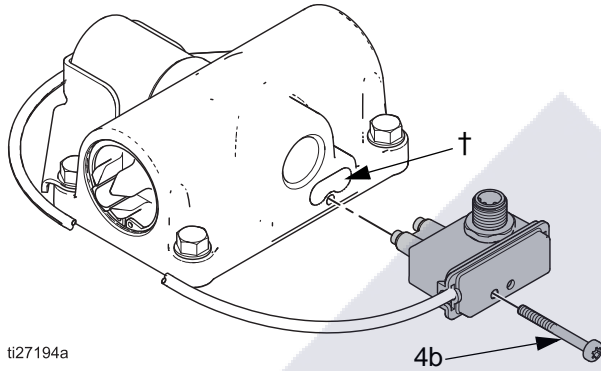


5. *DataTrak with runaway protection:* Attach the solenoid (S) and bracket (4d) to the air valve. Use the same screws (4c) that attach the air valve to the manifold, as shown.

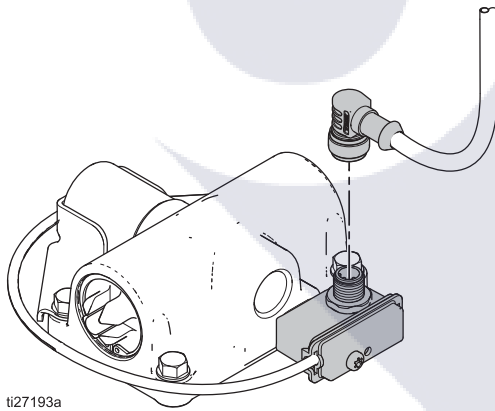


3. *Conversion Kits* include a new air valve that is compatible with the solenoid. Remove the old air valve and gasket from the pump, and install the replacement air valve and gasket.

6. Use the screw provided to attach the reed switch just behind the air inlet. Remove the muffler, if needed, for easier access. Rotate the air inlet fitting as needed so the wrench flat clears the reed switch.




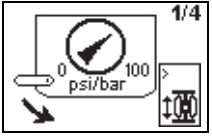

- † This hole is not tapped. The screw (4b) is a self-tapping screw.
7. Connect the DataTrak cable to the 5-pin connector on the reed switch. Reconnect the air line to the motor.†



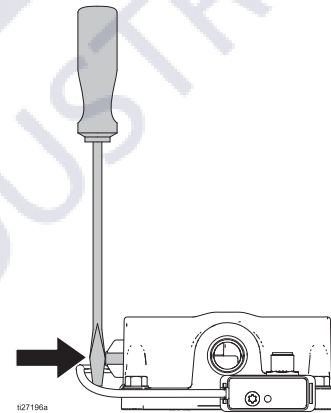
8. Secure DataTrak data cable. A plastic spiral conduit is provided to help prevent chafing.

Check DataTrak Operation

1. Enable runaway  and set the runaway limit. See **Setup Mode**, page 7.
2. Run the air motor at a speed slower than the runaway limit.

3. Check for proper reed switch operation.
 - a. The DataTrak pump icon should move when the air motor changes direction.
 - b. The Grand Totalizer and Batch Totalizer should advance.
4. *DataTrak with runaway protection*: Check for proper runaway operation.
 - a. Run the air motor at a speed faster than the runaway limit.
 - b. After 5 consecutive cycles, the DataTrak should stop the pump and display the runaway diagnostic screen.
 
 - c. To reset, turn the pressure off, then push  on the DataTrak module.
 - d. After resetting, turn on the air supply. The air motor should run. Shut off the air until ready to pump.

NOTE: If the DataTrak does not reset, turn air pressure down, then use a screwdriver to push the solenoid release button on the side of the air valve.



5. Configure the DataTrak as needed. See page 7.

DataTrak Controls and Indicators

Key

- AA Runaway Limit, in cycles per minute (user settable; 00=OFF)
- AB Displacement (user settable)
- AC Flow Rate Units (user settable to \updownarrow /min, gpm [US], gpm [Imperial], oz/min [US], oz/min [Imperial], l/min, or cc/min)
- AD LED (fault indicator when flashing)
- AE Display

- PF Prime/Flush Key (Enables Prime/Flush mode. While in Prime/Flush mode, runaway protection is disabled and the batch totalizer [BT] will not count.) LED will flash while in Prime/Flush mode.
- RK Reset Key (Resets faults. Press and hold for 3 seconds to clear the batch totalizer.) Push to toggle between flow rate and cycle rate.
- CF Cycle/Flow Rate
- BT Batch Totalizer (resettable)
- GT Grand Totalizer (not resettable)

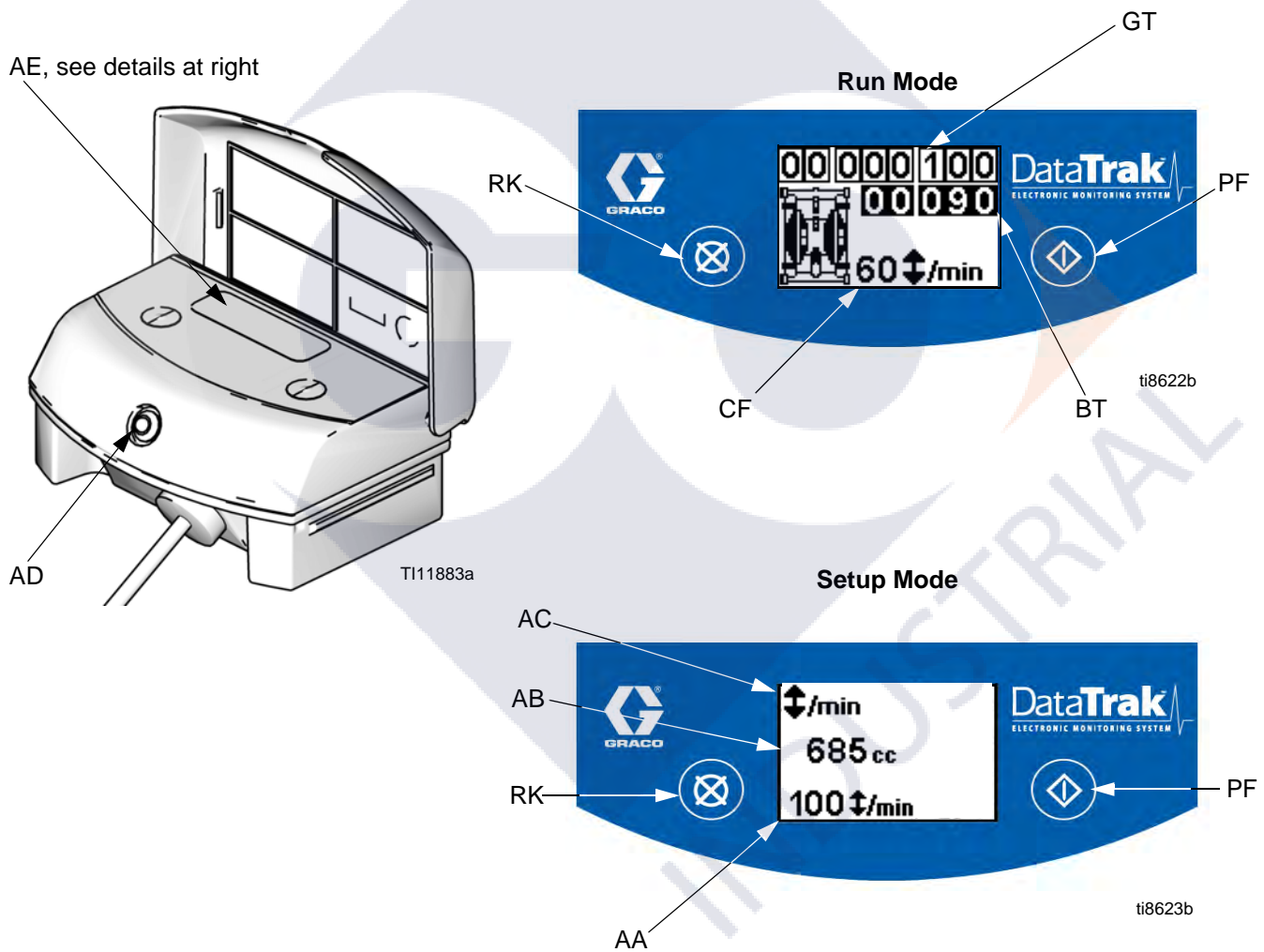





Fig. 1. DataTrak Controls and Indicators

DataTrak Operation

NOTE: The display (AE) will turn off after 1 minute to save battery life. Press any key to wake up the display.


NOTE: For Husky pumps, DataTrak is factory set to 685 cc/cycle. This setting is accurate for pumping water at a medium speed on a Husky 1050 pump (approximately 20 gpm). For Endura-Flo pumps, DataTrak is factory set to the displacement of the pump. The DataTrak can be calibrated for use with a different Husky or Endura-Flo model, for greater accuracy, for different pump speeds, or for different viscosity fluids. See **Calibration Procedure**, page 9.

Setup Mode

1. See Fig. 1. Press and hold  for 5 seconds until Setup menu appears.
2. To enter settings for flow rate units and displacement, press  to change the value, then  to save the value and move the cursor to the next data field.
3. To enter setting for runaway (if equipped), enter pump speed in cycles/min. The exact setting will vary by pump speed and viscosity of fluid. Choose a setting that is just above the fastest speed expected during normal operation.

NOTE: Set the value to zero to disable runaway protection or if your pump is not equipped with a runaway protection solenoid.

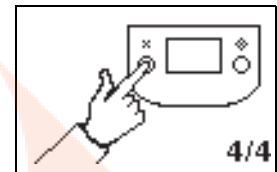
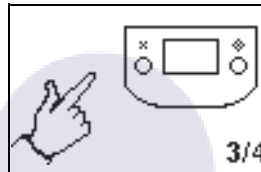
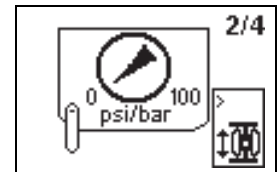
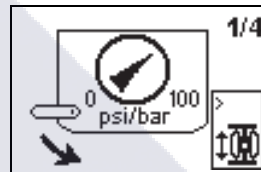
NOTE: A flashing LED indicates an error that must be addressed. The Runaway mode will not stop a runaway pump while the LED is flashing.


4. Move the cursor to the last field, then press  once more to exit Setup mode.

Run Mode

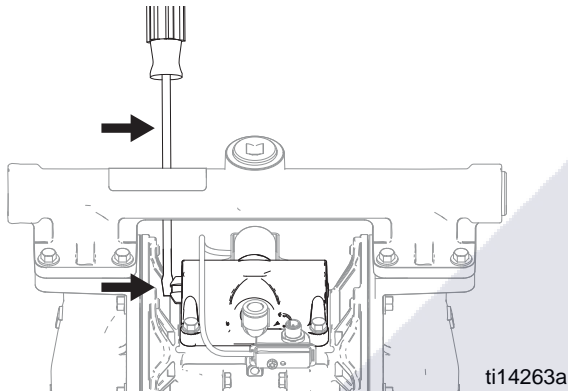
Runaway

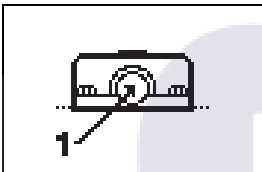
1. If pump runaway occurs, the runaway solenoid will actuate, stopping the pump. The LED (AD) will flash and the display (AE) will indicate a runaway condition. The display will cycle through four instruction screens.



2. To reset the runaway solenoid, close the master air valve. Wait for air to completely bleed off the air motor.
3. Press  to clear the diagnostic code and reset the runaway solenoid.
4. Open master air valve to restart pump.


NOTE: If the DataTrak does not reset, use a screwdriver to push the solenoid release button on the side of the air valve.



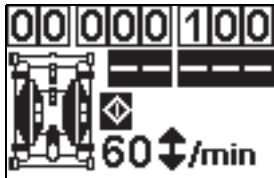
5. If the solenoid doesn't actuate:
 - a. Close the master air valve to stop the pump. The display will show the Service Component 1 screen.
 
 - b. See **Table 1, Diagnostic Codes**, on page 10.


NOTE: To disable runaway monitoring, go to setup mode and set runaway value to 0 (zero). See Fig. 1.

Prime/Flush


1. See Fig. 1. To enter Prime/Flush mode, press any key to wake up the display, then press . The Prime/Flush symbol will appear in the display and

the LED will flash




2. While in Prime/Flush mode, runaway protection is disabled and the batch totalizer (BT) will not count.
3. To exit Prime/Flush mode, press any key to wake up the display, then press . The Prime/Flush symbol will disappear from the display and the LED will stop flashing.

Counter/Totalizer

To reset the totalizer, press any key to wake up the display, then press and hold  for 3 seconds.

- If AC is set to gallons or ounces, BT and GT display gallons.
- If AC is set to liters or cc, BT and GT display liters.
- If AC is set to cycles, BT and GT display cycles.

NOTE: Press  to toggle between flow rate units and cycles. A letter under the BT display indicates that both BT and GT are displaying gallons (g) or liters (l). No letter means both BT and GT are displaying cycles.

Display


See Fig. 1. The display (AE) will turn off after 1 minute of inactivity in Run mode or 3 minutes in Setup mode. Press any key to wake up the display.

NOTE: DataTrak will continue to count cycles when display is off.




NOTE: The display (AE) may turn off if a high-level static discharge is applied to the DataTrak. Press any key to wake up the display.

Diagnostics

DataTrak can diagnose several problems with the pump. When the monitor detects a problem, the LED (AD, Fig. 1) will flash and a diagnostic code will appear on the display. See Table 1, page 10.

To acknowledge the diagnosis and return to the normal operating screen, press  once to wake up the display, and once more to clear the diagnostic code screen.

Calibration Procedure

1. Press and hold  for 5 seconds until Setup menu appears.
2. Press  once. Change flow rate units to cycles/min.
3. Return to Run Screen. Press and hold  for three seconds to reset batch totalizer.
4. Dispense fluid from pump into a graduated container.
5. Convert the actual volume dispensed to cubic centimeters (cc). See conversion chart.

Units Measured	Multiply by	To get
Gallons (U.S.)	3785	cc
Gallons (Imp)	4546	cc
Liters	1000	cc
Quarts	946	cc
Ounces (U.S.)	29.57	cc
Ounces (Imp)	28.41	cc
Cubic inches	16.39	cc
Cubic feet	28,317	cc
Pints	473	cc
cc	1	cc




6. Divide the actual volume dispensed (cc) by the number of cycles indicated on the DataTrak batch totalizer display.
7. Press  to enter the Setup screen. Enter the number from Step 6 in field 2 of the Setup screen.

Table 1: Diagnostic Codes

Symbol	Code	Code Name	Diagnosis	Cause
		Runaway	Pump running faster than set runaway limit.	<p>Increased air pressure.</p> <p>Increased fluid output.</p> <p>Exhausted fluid supply.</p>
	E-3	Low Battery	Battery voltage too low to stop runaway.	Low battery. Replace battery; see page 11.
	E--4	Service Component 1	Problem with stopping runaway.	<p>Damaged solenoid.</p> <p>Damaged valve carriage.</p> <p>Runaway protection may be enabled with pump that is not equipped with a runaway solenoid valve. Enter setup screen and disable runaway protection.</p>
	E-4	Disconnected Solenoid	Solenoid is disconnected.	<p>Solenoid unplugged.</p> <p>Damaged solenoid wires.</p>
	E-6	Blown Fuse	Fuse is blown. Replace fuse; see page 11.	<p>Faulty solenoid or solenoid wiring.</p> <p>Extreme temperatures (above 140°F [60°C]).</p> <p>Runaway protection may be enabled with pump that is not equipped with a runaway solenoid valve. Enter setup screen and disable runaway protection.</p>

Replace DataTrak Battery or Fuse

					
---	---	--	--	--	--

To reduce the risk of fire and explosion, the battery and fuse must be replaced in a non-hazardous location.

Use only an approved replacement battery, shown in Table 2, and an approved fuse, shown in Table 3. Use of an unapproved battery or fuse will void Graco's warranty and Intertek and Ex approvals.

Replace Battery

1. Unscrew cable from the reed switch assembly. See Fig. 2.

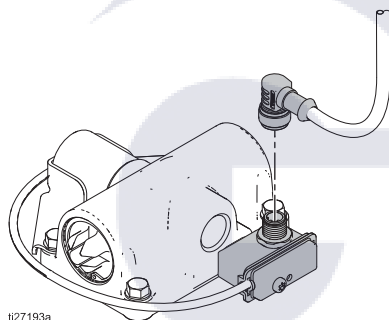


Fig. 2. Disconnect DataTrak

2. Remove DataTrak module from bracket. See Fig. 3. Take module to a non-hazardous location.

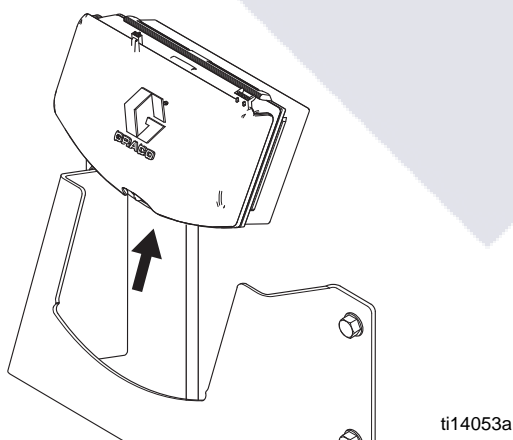


Fig. 3. Remove DataTrak

3. Remove two screws on back of module to access battery.
4. Disconnect the used battery and replace with an approved battery. See Fig. 4.

Table 2. Approved Batteries

Energizer alkaline # 522
Varta alkaline # 4922
Ultralife lithium # U9VL
Duracell alkaline # MN1604

Replace Fuse

1. Remove the screw, metal strap, and plastic holder.
2. Pull the fuse away from the board.
3. Replace with a new fuse.

DataTrak Part Number	Series*	Fuse Required
289822	A or B	24C580
	C and later	24V216
24Y304 and 24Y306	A and later	24V216
All other part numbers	A	24C580
	B and later	24V216

* Fig. 4 shows where to find the Series letter.

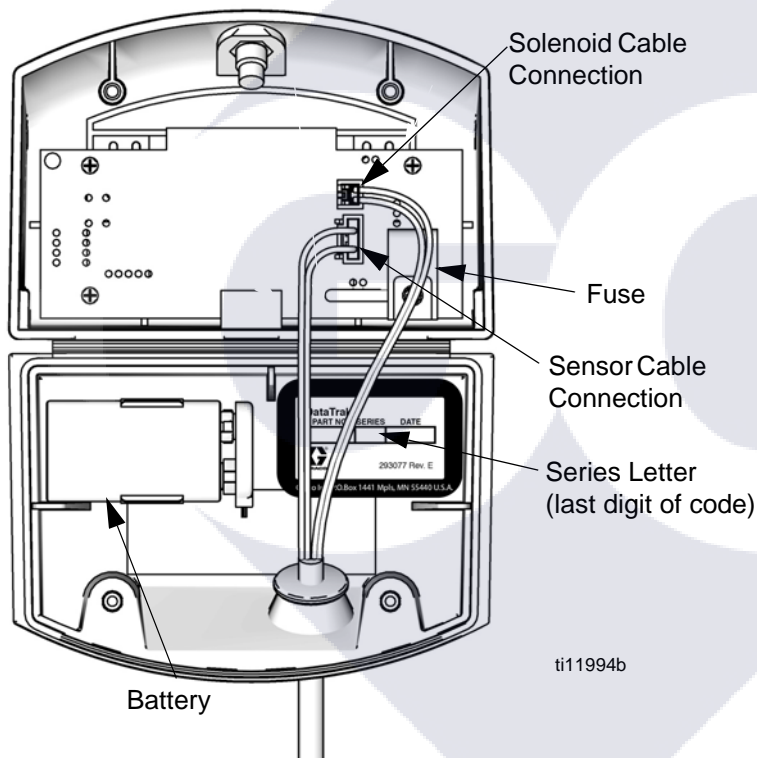


Fig. 4. DataTrak Battery and Fuse Location



Parts

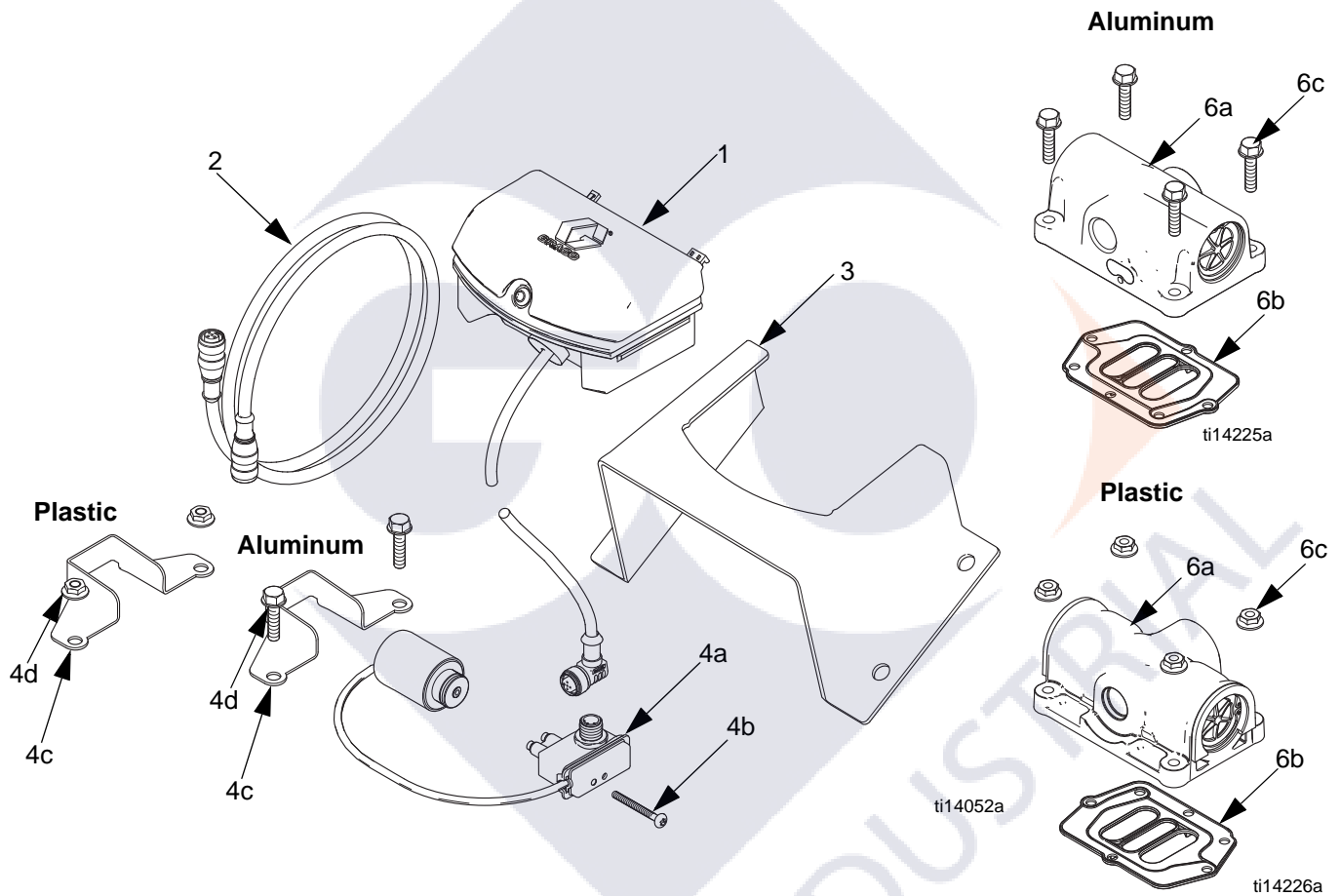
Conversion Kits, Cycle Count and Runaway Protection

Husky 1050 - 24B777 (Aluminum), 24B784 (Polypropylene), and 24B793 (Conductive Polypropylene)

Husky 15120 - 24B784 (Polypropylene)

Husky 2200 - 24V233 (Polypropylene)

Husky 3300 - 24K861 (Aluminum) and 24K862 (Polypropylene)



Ref. No.	Part No.	Description	Qty
1	-----	DATATRAK module (see pages 11 and 12 for battery and fuse replacement information)	1
2	-----	CABLE	1
3	-----	BRACKET, wall	1
4		SOLENOID/REED SWITCH, kit (includes Parts 4a-4d)	1
	24B771	Husky 1050 and 15120 plastic air valve	
	24B772	Husky 1050 aluminum air valve	
	24K863	Husky 2200 and 3300 plastic air valve	
	24K864	Husky 3300 aluminum air valve	
4a	-----	REED SWITCH with SOLENOID	1
4b	-----	SCREW, reed switch 8-32 x 1.50 taptite, aluminum air valve 6-19 x 1-5/8 plastite, plastic air valve	1
4c	-----	BRACKET, solenoid	1
4d	-----	FASTENER, solenoid M6 x 25 screw, aluminum air valve M6 hex nut, plastic air valve	2

Ref. No.	Part No.	Description	Qty
6		AIR VALVE, kit (includes Parts 6a-6c)	1
	24B767	Husky 1050 Aluminum	
	24B774	Husky 1050 and 15120 Polypropylene	
	24B776	Husky 1050 Conductive Polypropylene	
	24V232	Husky 2200 Polypropylene	
	24K856	Husky 3300 Aluminum	
	24K858	Husky 3300 Polypropylene	
6a	-----	VALVE, air, smart	1
6b	-----	GASKET, air valve	1
6c	-----	FASTENERS, air valve M6 x 25 screw, Aluminum air valve M6 hex nut, Plastic air valve	4
7▲	15V262	LABEL, warning (not shown)	1
8▲	16A098	CARD, reference, language (not shown)	1

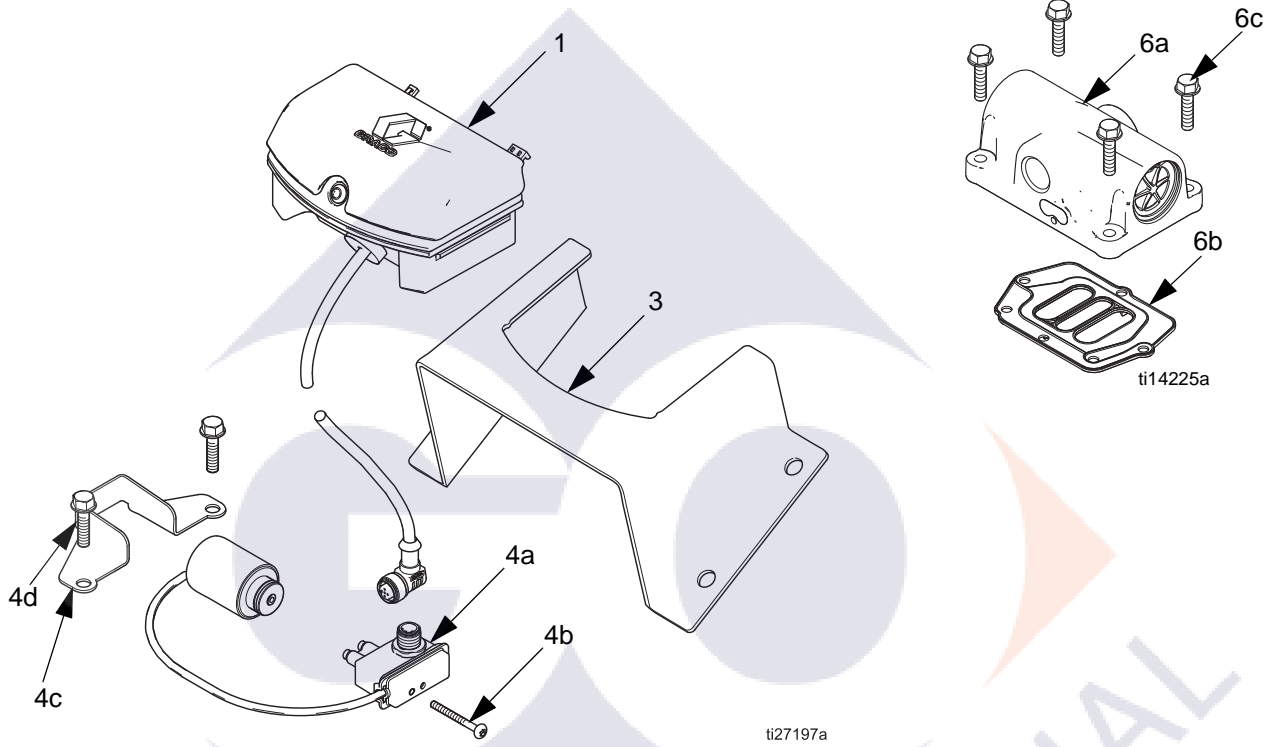
▲ Replacement Warning labels, signs, tags, and cards are available at no cost.

----- Not sold separately.

Conversion Kits, Cycle Count and Runaway Protection

Endura-Flo 4D150 - Kit 24Y304

Endura-Flo 4D350 - Kit 24Y306



Ref. No.	Part No.	Description	Qty
1	-----	DATATRAK module (see pages 11 and 12 for battery and fuse replacement information)	1
3	-----	BRACKET, wall	1
4	17H320 17H321	SOLENOID/REED SWITCH, kit (includes Parts 4a-4d) for 4D150 for 4D350	1
4a	-----	REED SWITCH with SOLENOID	1
4b	-----	SCREW, reed switch 8-32 x 1.50 taptite	1
4c	-----	BRACKET, solenoid	1
4d	-----	FASTENER, solenoid M6 x 20 screw	4

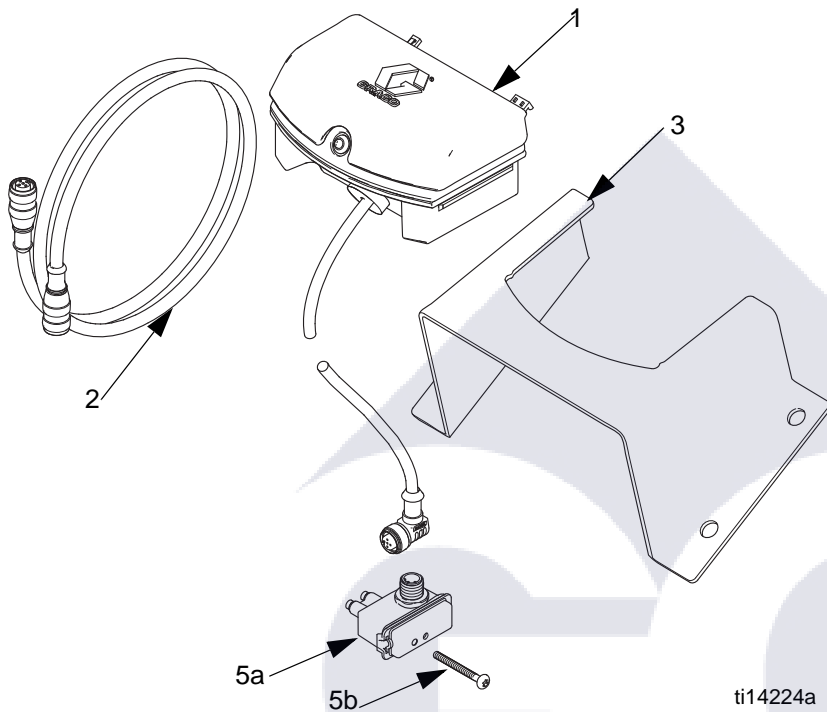
Ref. No.	Part No.	Description	Qty
6	17H318 17H316	AIR VALVE, kit (includes Parts 6a-6c) for 4D150 for 4D350	1
6a	-----	VALVE, air, smart	1
6b	-----	GASKET, air valve	1
6c	-----	FASTENERS, air valve M6 x 20 screw	4
7▲	15V262	LABEL, warning (not shown)	1
8▲	16A098	CARD, reference, language (not shown)	1

▲ Replacement Warning labels, signs, tags, and cards are available at no cost.

----- Not sold separately.

Conversion Kits, Cycle Count Only

Husky pumps - 24B795 (Aluminum) and 24B794 (Polypropylene and Conductive Polypropylene)



ti14224a

Ref. No.	Part No.	Description	Qty
1	-----	DATATRAK module (see pages 11 and 12 for battery and fuse replacement information)	1
2	-----	CABLE, CAN	1
3	-----	BRACKET, wall	1
5		REED SWITCH, kit (includes Parts 5a-5b)	1
	24B796	Plastic air valve	
	24B798	Aluminum air valve	
5a	-----	REED SWITCH	1
5b	-----	SCREW, reed switch 8-32 x 1.50 taptite, aluminum air valve 6-19 x 1-5/8 plastite, plastic air valve	1
6▲	15V262	LABEL, warning (not shown)	1
7▲	16A098	CARD, reference, language (not shown)	1

▲ Replacement Warning labels, signs, tags, and cards are available at no cost.

Replacement Kits

Solenoid/Reed Switch

Husky 1050, 15120	Husky 2200, 3300	Air Valve Material	Includes
24B771	24K863	Plastic	Reed switch and solenoid (4a), bracket (4c), and fasteners (4b, 4d)
24B772	24K864	Aluminum	

Reed Switch

Husky Pumps	Air Valve Material	Includes
24B796	Plastic	Reed switch (5a) and fastener (5b)
24B798	Aluminum	

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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Graco Information

For the latest information about Graco products, visit www.graco.com.

For patent information, see www.graco.com/patents.

TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor.

Phone: 612-623-6921 **or Toll Free:** 1-800-328-0211 **Fax:** 612-378-3505

*All written and visual data contained in this document reflects the latest product information available at the time of publication.
Graco reserves the right to make changes at any time without notice.*

Original instructions. This manual contains English. MM 313840

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